

WELCOME SPEECH*

SHRI S. K. PATIL, MEMBERS AND DELEGATES OF THE INDIAN SOCIETY OF AGRICULTURAL STATISTICS AND FRIENDS,

It gives me great pleasure to welcome you all to the 16th Annual Conference of the Indian Society of Agricultural Statistics. We are very thankful to Shri S. K. Patil, Minister for Food and Agriculture, for so kindly accepting our request to inaugurate the Conference. He has also accepted the request of the Society to be its President and we feel grateful to him for his consideration in accepting our request.

I take this opportunity of thanking our past President, Dr. Rajendra Prasad, who was associated with the Society since its inception. I offer him our grateful thanks for the patronage which he extended to the Society.

Having been associated with the Society from its very birth, I would like to briefly survey that progress we have made and what should be our plans for the future. The Indian Society of Agricultural Statistics was founded in 1947 and has now completed a period of 15 years of its useful existence.

The growth of the science of Statistics and its application to agriculture has a history of about 30 years. In 1930 the Indian Council of Agricultural Research established a small section of Statistics to bring its application to agricultural research. The Council also gave grants to the Indian Statistical Laboratory which had been started at Calcutta by Prof. P. C. Mahalanobis at about the same time. The Indian Statistical Laboratory developed into a large Institute and has recently been raised to the status of a University and awards Degrees in Statistics. The Statistical Unit of the I.C.A.R. has also now grown into a full-fledged Research Institute—now called the Institute of Agricultural Research Statistics—which is engaged both in research and training.

The new science of Statistics made striking impact on agricultural research in the country. Scientific designing and analysis have become

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a universal practice in agricultural experiments. Objective methods of estimating crop production through crop cutting surveys have now been firmly established as a normal practice in the States and figures of crop production are now based on science rather than visual impressions of Revenue Officers.

During the last 15 years the statistical science has made much progress. The theory of experimental design and of sample surveys has been elaborated. The publication by the Society in 1954 of Dr. P. V. Sukhatme's book on *Sampling Theory of Surveys* was a land-mark in this development. This book is widely used both in India and abroad for reference by working statisticians and as a text-book on the subject in the universities. Scientific experimentation has been transferred from the confines of government research farms to cultivators' fields. New designs and appropriate methods of analysis have been developed for this purpose to that while the lay-out of experiments was simplified to fit in with the cultivators' normal practice, the scientific rigour of the interpretation of the results was maintained. Today some 20 000 trials on this pattern are being carried out all over the country on important crops under the technical guidance of the Institute of Agricultural Research Statistics and are providing valuable information for making the best use of fertilizers in different areas and under different conditions. Research in the field of animal husbandry with its costly and time-consuming peculiarities has also found a fruitful application of statistical methods. Experimental designs to study the nutritional requirement of animals and for progeny testing for establishing superior transmitting ability in sires have been developed and sampling procedures have been evolved for reliable estimation of milk yield both in government farms and villages.

With the increased tempo of planning and the consequent need for providing a scientific basis for various measures for agricultural development, the role of agricultural statisticians has become still more important and their work has assumed greater complexity. Agriculture is subject to a variety of forces, natural, technical, economic and social. It is of utmost importance to ascertain the farmer's reaction to these forces in order to mould his response in the right direction to planned action. To meet this need, scientific surveys are being undertaken for studying the farmers' current practices, as, for instance, their use of fertilizers and manures, through which it is proposed to find out what motivates the farmer to use fertilizers, on what crops he prefers to use them, at what rates he applies them and so on. Surveys are also being carried out to study the economic aspects of farming, such

as various inputs like labour, manure, seed, and other materials required for production, the implements used, the returns obtained from these and their interrelationships. Similar studies have been extended to dairy husbandry, sheep rearing and poultry keeping. In order to discuss the various aspects of economic studies in agriculture, the Society arranged a Seminar at Matheran in 1960, jointly with the Indian Society of Agricultural Economics and the Government of India. The report of this Seminar under the title "Problems in Cost Studies in Agriculture" provides an excellent summary of the current thinking on this subject by agricultural economists and statisticians.

The special programme that is in operation now for intensification of efforts for agricultural production in selected districts has provided a very valuable opportunity to statisticians to study how the farmer responds to these concentrated efforts, to what extent the production is actually influenced and how far the farmer is building up his capacity for maintaining increased production. The results of these studies are bound to have a powerful impact on our approach to planning in agriculture. These studies are now in progress and the results will be watched with interest.

The Society is holding this Conference under the shadow of a grave national emergency. The work on agricultural front is next in importance only to military defence. By suggesting efficient techniques for accelerating planned action for increased agricultural production the statisticians can make a contribution. Hence the deliberations of this Conference assume a special significance and I have no doubt that you will develop some useful proposals.

With these remarks I have great pleasure in now asking Dr. Panse, the Secretary of the Society, to present a summary of the Society's work during the past year.